

NATIONAL WATER INFORMATION SYSTEM ADMINISTRATOR'S MANUAL

VOLUME 1. CHAPTER 1. SHARED SYSTEMS

Section ____

Agency Code/Station Number Change and Station Record Delete Procedure

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CONTENTS

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	Page
1 INTRODUCTION	1
2 ERROR CHECKS	3
3 PROGRAM OPERATION	5
3.1 Changing data-base numbers	5
3.2 Deleting site records and changing the site identification--ground-water sites	6
3.2.1 Accessing the ground-water files and selecting a site	6
3.2.2 Deleting the ground-water site	7
3.2.3 Changing the site identification (source agency code and site number) for the ground-water site	9
3.3 Deleting site records and changing the site identification--surface-water stations	10
3.3.1 Accessing the surface-water files and selecting a site	10
3.3.2 Deleting the surface-water site	12
3.3.3 Changing the surface-water station identification.....	13
4 UPDATE FILES	14
4.1 GWSI\$UPT for updating GWSI-S2K	14
4.2 HDR\$UPT for updating HEADER	14
4.3 QW\$UPT for updating QW files	15
5 SUPPORT FILES	15
6 APPENDIX	16
6.1 Necessary data files	16
6.1.1 Directory WATSTORE>DATA (for GW data)	16
6.1.2 Directory WATSTORE>DATA (for QW data)	17
6.2 COMI procedure to compile, load, and link routines .	17
6.3 Program steps	17

NATIONAL WATER INFORMATION SYSTEM

ADMINISTRATOR'S MANUAL

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AGENCY CODE/STATION NUMBER CHANGE AND STATION RECORD DELETE PROCEDURE

1 INTRODUCTION

The program described in this document is for changing site identification numbers and deleting the entire record of a site in the National Water Information System (NWIS) data base. All records associated with an agency code and site identification number will be changed or deleted in the GWSI, QWDATA, and ADAPS subsystems of NWIS. This procedure is not for general use because of the severity of the action performed; therefore, complete control of its usage should be maintained by the NWIS Data Base Administrator. In addition to the updating of the NWIS data base on the Prime, the procedure creates three files for transfer to the Amdahl and updating the GWSI-S2K, Site Header, and Water-Quality files in the national NWIS data base. At the present time no provision has been made for updating the national file associated with the NWIS/ADAPS files. This scheme allows for both the local and national NWIS data bases to be kept current with a minimum of effort by the local NWIS Data Base Administrator. The action to the NWIS files is on a real-time basis.

The procedure is currently protected by setting the proper ACL's. In general, the menu-driven procedure first identifies your default data-base number, providing an option to change to a different data-base number. The procedure then checks to make sure there is no conflict between the GWSI, QW, and ADAPS data-base numbers; again allowing you to resolve any conflict. Once the data-base number has been determined for the session, the procedure reviews the master file of all data-base pathnames and reports if the files are shared between multiple data bases.

After the data-base number and pathname conflicts are identified, you are asked for the site type to be changed or deleted as "GW" or "SW" (QW and ADAPS are included with both a GW and SW site). At this point, the option EX allows you to terminate the session. The identification as GW or SW signals the procedure to open the type files to be changed or deleted.

Once the files are opened, you are asked for the source agency code and site identification number, followed by a question asking whether or not to delete the site or change the agency code and number. If the site record is to be deleted, the question whether to delete the site is repeated. If the answer is YES, an inventory of all GW/QW/ADAPS records are displayed and you are prompted for a YES to continue. If the answer is YES, all GW, QW,

and ADAPS records for the site are deleted from the Prime WATSTORE data files. In addition, delete commands are written into files for transfer to the Amdahl for the GWSI and QW data records. If the answer is NO, you are asked if you want to process another SW or GW site.

If the agency code and site-identification number are to be changed, the answer to the question of whether or not the site record is to be deleted is "NO". You are then asked for the new number. Assuming that no errors are made on the input of the new number, the program provides an inventory of all GW, QW, and ADAPS data records. You are then asked if you want to continue; if the answer is YES, the program proceeds to change all GW, QW, and ADAPS agency codes and site-identification numbers for the site. In addition, change commands are written into files for transfer to the Amdahl for the GWSI and QW data records for GWSI and QW data records. If the answer is NO, you are then asked if you want to process another site.

2 ERROR CHECKS

Error checks are made on input of the old site identification and the new site identification (if the site identification is changed). These error checks include the following:

- A. If sites to be changed or deleted are identified as "SW", the NWIS data base is checked to be sure the site is a SW site. Of course, the same check is made on GW sites. The message

```
SITE REQUESTED IS A GW (or SW) SITE--NOT SW (or GW) AS  
SPECIFIED BY FILE TYPE
```

is displayed when an error is detected. All data files are immediately closed.

In addition, the following message is displayed giving the option to terminate the procedure or reselect the site type.

```
DO YOU WANT TO CONTINUE CHANGING OR DELETING STATION ID'S--  
Y or N?
```

If the answer is Y, the procedure loops back for the reselection of the site type (GW or SW) and the proper data files are opened.

- B. The old site identification is checked for existence in the Prime NWIS data base. If present, the procedure continues to the next step. If not present, the following message is displayed:

```
THERE IS NO RECORD FOR STATION (station identification) IN  
THE FILE
```

followed by:

```
ANOTHER SW (or GW) STATION (Y or N)?
```

If the answer is Y, the procedure loops back for entry of another station identification. If the answer is N, the procedure loops back for reselection of the site type (SW or GW).

- C. The new site identification for a site to be changed is first checked for syntax. The

following messages are displayed when errors are detected:

- a. XXXX AGENCY CODE NOT VALID, PLEASE REENTER
- b. ***SITE ID MUST BE LEFT-JUSTIFIED--PLEASE REENTER***
- c. NONNUMERIC CHARACTER IN SIDE ID--REENTER

- D. The new site identification for a site to be changed is then checked against the Prime NWIS data file to be sure that a site with that identification does not already exist. If a duplicate is found, the following message is displayed:

A STATION RECORD WITH THAT NUMBER ALREADY EXISTS.

You are then asked the following:

DO YOU WANT TO LEAVE THE OLD NUMBER UNCHANGED?
(Y OR N)?

If the answer is N, you are asked for a new site identification to replace the old one. If the answer is Y, you are asked whether or not you would like to go on to another SW or GW station.

If the answer is Y, you are asked for the entry of another "old" site identification. If the answer is N, you may either terminate the procedure or select another site type (GW or SW).

3 PROGRAM OPERATION

The station identification change/record delete procedure is a user-restricted routine. Being general-user restricted, the access is not through the normal WATSTORE menu. This procedure can be accessed from Option 1 of the gws_i_sys menu, or executed directly with the following command:

STNCHANGE

The procedure begins with the following message:

Current data-base number is: 01
Hit "C" to change or any key to continue:

3.1 Changing Data-Base Numbers

To change the default data-base numbers for GWSI and QWDATA, enter a C in response to the previous prompt. A menu is then displayed that will allow you to list, change, or exit this subprocedure.

The data-base number **MUST** be the same for all three subsystems of the NWIS data-base structure. At this point, the procedure continues with a check for conflicts among the GWSI, QW, and ADAPS data systems. If a conflict exists, the data-base numbers for each subsystem are displayed and you are asked if you want to resolve this conflict. Answer YES to resolve the conflict and NO to exit the program.

Once the data-base number has been set, the procedure checks for files that are shared among multiple data bases. This information is displayed on the screen. If data files are shared among multiple data bases, use extreme caution. You may delete information

needed by one of the other data bases. You may exit the program at the time of SITE type selection.

After the checking is done and conflicts are resolved, the following message is displayed:

```
***THIS PROGRAM  CHANGES AGENCY CODES/STATION NUMBERS OR DELETES STATION
RECORDS.
```

3.2 Deleting Site Records and Changing the Site Identification--Ground-Water Sites

The following sections describe how to access the ground-water files and select a site, delete a ground-water site, and change the site identification for the ground-water site.

3.2.1 Accessing the Ground-Water Files and Selecting a Site

To open and access the ground-water and related water-quality files, respond "GW" to the following request:

```
IDENTIFY RECORDS TO BE CHANGED OR DELETED AS GW, SW, or EX to exit the
procedure.
```

The GW response causes the routine to open the data files and the following message and request is displayed:

```
GROUND-WATER FILES ARE OPEN.
ENTER THE AGENCY CODE/NUMBER OF THE GW STATION TO
CHANGE OR DELETE; FOR EXAMPLE,
USGS 393245112231501
```

The station file (Site File) is checked for the presence of the station (site) in the file. If the station is not in the file, the following message is displayed:

```
THERE IS NO RECORD FOR STATION (station identification) IN THE FILE.
ANOTHER GW STATION (Y OR N)?
```

If the answer is Y, the routine loops back to request another GW station. If the answer is N, the routine closes the ground-water and water-quality files and asks the following:

```
DO YOU WANT TO CONTINUE CHANGING OR DELETING STATION ID'S--Y OR N?
```

If the answer is N, the procedure is terminated. If the answer is Y, the routine loops back to the request:

```
IDENTIFY RECORDS TO BE CHANGED OR DELETED AS GW OR SW.
```

The second check on the "old" station is within the Site File data file on the variable STYPE. STYPE is an array that contains the information that identifies the site type as ground water or surface water. If the site type (STYPE) is found to be other than ground water (STYPE(5) or STYPE(6) equal to "Y") the following message is displayed:

```
SITE REQUESTED IS A SW STATION--NOT GW AS SPECIFIED BY FILE TYPE.
```

The ground-water files are immediately closed and the following question is displayed:

```
DO YOU WANT TO CONTINUE CHANGING OR DELETING STATION ID'S--Y OR N?
```

If the answer is N, the routine is terminated. If the answer is Y, the routine loops back to the request:

IDENTIFY RECORDS TO BE CHANGED OR DELETED AS GW OR SW.

If the "old" site is present in the Site File and confirmed to be a GW site, an inventory of all GW, QW, and ADAPS records for the site are displayed and the following question is displayed:

DO YOU WANT TO DELETE THAT STATION (Y OR N)?

3.2.2 Deleting the Ground-Water Site

If you answer Y to the request, DO YOU WANT TO DELETE THAT STATION (Y OR N)?, the following messages are displayed:

***IF YOU DELETE THE STATION, ALL DATA FOR THAT STATION WILL BE DELETED

ARE YOU SURE YOU WANT TO DELETE STATION (station identification)? PLEASE ANSWER YES OR NO

If the answer is NO, you are asked if another GW site needs to be processed. If the answer is YES, the delete segment of the routine displays the following messages:

(number) GW.CONNS RECORDS DELETED
(number) GW.LEV RECORDS DELETED
(number) GW.DISC RECORDS DELETED
(number) GW.MISC RECORDS DELETED
(number) GW.GEOH RECORDS DELETED
(number) GW.OBS RECORDS DELETED
(number) GW.HYDR RECORDS DELETED
(number) GW.STWU RECORDS DELETED (file is for local use in Oregon)
(number) WATER-QUALITY RECORDS DELETED
(number) ADAPS DATUM-CORRECTION FILE RECORDS DELETED
(number) ADAPS DATA-DESCRIPTOR FILE RECORDS DELETED
(number) ADAPS DAILY-VALUES FILE RECORDS DELETED
(number) ADAPS ERROR FILE RECORDS DELETED
(number) ADAPS INSTRUMENT FILE RECORDS DELETED
(number) ADAPS UNIT-VALUES INDEX FILE RECORDS DELETED
(number) ADAPS MEASUREMENT FILE RECORDS DELETED
(number) ADAPS PROCESSOR FILE RECORDS DELETED
(number) ADAPS RATINGS FILE RECORDS DELETED
(number) ADAPS SHIFTS-WITH-TIME FILE RECORDS DELETED
(number) ADAPS VARIABLE-SHIFTS FILE RECORDS DELETED
(number) ADAPS UNIT-VALUES ACTIVE FILE RECORDS DELETED
(number) ADAPS UNIT-VALUES SUBFILE RECORDS DELETED
RECORD FOR STATION (site identification) DELETED

At this time, the delete records are written to the GWSI\$UPT, HDR\$UPT, and QW\$UPT files for updating the NWIS GW and QW data files on the Amdahl computer.

After deleting the records for the site from all the files and writing to files for transfer to the Amdahl, the routine loops back to the main program and asks the following:

ANOTHER GW STATION (Y OR N)?

3.3 Deleting Site Records and Changing the Site Identification--Surface-Water Stations

The following sections describe how to access the surface-water files and select a site, delete a surface-water site, and change the surface-water station identification.

3.3.1 Accessing the Surface-Water Files and Selecting a Site

To open and access the surface-water and related water-quality files, respond "SW" to the following request:

```
IDENTIFY RECORDS TO BE CHANGED OR DELETED AS GW OR SW
```

The SW response causes the routine to open the data files and the following message is displayed:

```
SURFACE-WATER FILES ARE OPEN  
ENTER THE AGENCY CODE/NUMBER OF THE SW STATION TO  
CHANGE OR DELETE; FOR EXAMPLE,  
USGS 10384500"
```

The station file (Site File) is checked for the presence of station (site) in the file. If the station is not in the file, the following message is displayed:

```
THERE IS NO RECORD FOR STATION (station identification) IN THE FILE  
ANOTHER SW STATION (Y OR N)?
```

If the answer is Y, the routine loops back to request another SW station. If the answer is N, the surface-water and water-quality files are closed and the following question is displayed:

```
DO YOU WANT TO CONTINUE CHANGING OR DELETING STATION IDS--Y OR N?
```

If the answer is N, the procedure is terminated. If the answer is Y, the routine loops back to the request:

```
IDENTIFY RECORDS TO BE CHANGED OR DELETED AS GW OR SW.
```

The second check on the "old" station is within the Site File data file on the variable STYPE. STYPE is an array that contains the information that identifies the site type as ground water or surface water. If the site type (STYPE) is found to be ground water (STYPE(5) or STYPE(6) equal to "Y"), the following message is displayed:

```
SITE REQUESTED IS A GW STATION--NOT SW AS SPECIFIED BY FILE TYPE
```

The surface-water files are immediately closed and the following question is displayed:

```
DO YOU WANT TO CONTINUE CHANGING OR DELETING STATION ID'S--Y OR N?"
```

If the answer is N, the routine is terminated. If the answer is Y, the routine loops back to the request:

```
IDENTIFY RECORDS TO BE CHANGED OR DELETED AS GW OR SW.
```

If the "old" site is found to be present in the Site File and confirmed to be a SW site, the following question is displayed:

```
DO YOU WANT TO DELETE THAT STATION (Y OR N)?
```

3.3.2 Deleting the Surface-Water Site

If you answer Y to the question, DO YOU WANT TO DELETE THAT STATION (Y OR N)?, an inventory of all data in the QW, and ADAPS data bases is displayed, as well as the following message:

```
***IF YOU DELETE THE STATION, ALL DATA FOR THAT STATION WILL BE DELETED
```

```
ARE YOU SURE YOU WANT TO DELETE STATION (station identification)? PLEASE  
ANSWER YES OR NO
```

If the answer is NO, the routine prompts you for another site to be processed. If the answer is YES, the procedure takes you to the delete segment of the routine where the following message is displayed:

```
(number) WATER-QUALITY RECORDS DELETED  
RECORD FOR STATION (site identification) DELETED
```

At this time, the delete records are written to the HDR\$UPT and QW\$UPT files for updating the NWIS files on the Amdahl computer. After deleting the records for the site from all the files and writing to files for transfer to the Amdahl, the routine loops back to the main program and asks the following:

```
ANOTHER SW STATION (Y OR N)?
```

If the answer is Y, the routine loops back and requests another "old" site identification. If the answer is N, the following question is displayed:

```
DO YOU WANT TO CONTINUE CHANGING OR DELETING STATION IDS?--Y OR N.
```

If the answer is N, the program is terminated. If the answer is Y, the routine loops back to the request:

```
IDENTIFY RECORDS TO BE CHANGED AS SW OR GW.
```

3.3.3 Changing the Surface-Water Station Identification

If you answer N to the question, DO YOU WANT TO DELETE THAT STATION (Y OR N)?, the following request is displayed:

```
ENTER THE NEW NUMBER FOR STATION  
USGS (old station identification)
```

The "new" station identification is checked for syntax errors (see Error Messages, sec. 2.C.) and duplication existing in the file (see Error Messages, sec. 2.D.). If an error occurs, the routine either loops back for the entry of another site identification or reentry of site type (GW or SW), or terminates.

The entry of a correctly formatted and nonexistent "new" site identification causes the procedure to go to the change segment of the routine where the following message is displayed:

```
AGENCY CODE/STATION NUMBER (old site ID) CHANGED TO  
(new site ID)  
(number) QW RECORDS CHANGED
```

Following the Site File change, the "change" records are written to the HDR\$UPT and QW\$UPT files for updating the NWIS files on the Amdahl computer. The routine then returns to the main program and the following question is displayed:

ANOTHER SW STATION (Y OR N)?

If the answer is N, you may select another site type (GW or SW), or terminate the program. If the answer is Y, the routine loops back and requests another "old" site identification for changing or deleting.

4 UPDATE FILES

The update files are built by the routine under the watsave directory for periodic transfer to the national NWIS data files on the Amdahl in Reston. Until decided otherwise, the national NWIS files will be kept current and it will be the requirement of the Field Offices to keep these files updated on a regular basis. The files created by this routine are concatenated with those built by the other NWIS edit/update procedures. The format of these files is as follows:

4.1 GWSI\$UPT for Updating GWSI-S2K

An example of a DELETE record for a ground-water site:

0000423208122543601 R=0* T=D*

An example of agency code and site-identification number change:

0000422818122442701 R=0\$ T=M* 1=422818122442702* 4=USGS *

4.2 HDR\$UPT for Updating HEADER

An example of a DELETE record for a ground-water site:

H422818122442701DELETE

An example of station identification number change for a ground-water site:

I422818122442701422818122442702

An example of a DELETE record for a surface-water site:

H 10384500bbbbbbDELETE

An example of a station identification change for a surface-water site:

I 10384500bbbbbb 10384501

4.3 QW\$UPT for Updating QW Files

An example of a DELETE record for a ground-water site:

H421145122385301 (37X) DELETE

An example of a station identification number change for a ground-water site:

I421145122385301421145122385301

An example of a DELETE record for a surface-water station:

```
H 14157800bbbbbb      ( 37X)      DELETE
```

An example of a station identification number change for a surface-water site:

```
I 14157800bbbbbb 14157801
```

5 SUPPORT FILES

The source agency code entered with the site identification number when a change is requested for a station is checked against a lookup table. Each District has a support file containing the various lookup tables that are related to the area covered by that District. The source agency codes are located in file */usr/opt/nwis/support/edit.tables/sagency.edi*. If the "new" source agency code does not match one of the codes in file *sagency.edi*, the routine loops back for the entry of a correct code. The *sagency.edi* file is in the following format:

```
USGS
OR001
OR002
OR003
(etc.)
```

6 APPENDIX

6.1 Necessary Data Files

For the smooth operation and reduction of error-type messages, a number of data files should be present under the proper directories. These files are established using the CRE-ATK software and are either filled or left empty, depending upon the availability of the type of data in the District. The data-file names and directories given below are the default file names and directories. The file names and directories could be different. (See S_GPATH.ADMIN.DOC located under WATSTORE/UTILITIES/S_GPATH for an explanation of movable files.) The following default directories and files are required.

6.1.1 Directory WATSTORE>DATA (for GW Data)

- sitefile
- gw.cons
- gw.lev
- gw.disc
- gw.misc
- gw.geoh
- gw.obs
- gw.hydr
- gw.stwu (local-use file for Alpha test site--Oregon)
- ADAPS datum-correction file
- ADAPS data-descriptor file
- ADAPS daily-values file
- ADAPS error file
- ADAPS instrument file
- ADAPS unit-values index file
- ADAPS measurement file
- ADAPS processor file
- ADAPS ratings file
- ADAPS shifts-with-time file
- ADAPS variable-shifts file
- ADAPS unit-values active file
- ADAPS unit-values subfiles

6.1.2 Directory WATSTORE>DATA (for QW Data)

- sitefile
- qwfile
- ADAPS datum-correction file
- ADAPS data-descriptor file
- ADAPS daily-values file
- ADAPS error file

ADAPS instrument file
ADAPS unit-values index file
ADAPS measurement file
ADAPS processor file
ADAPS ratings file
ADAPS shifts-with-time file
ADAPS variable-shifts file
ADAPS unit-values active file
ADAPS unit-values subfiles

6.2 COMI Procedure to Compile, Load, and Link Required Routines

(Note: I didn't change anything in this section)

The CPL routine for compiling, loading, and linking the required software is in the file

WATSTORE/SITEDIR/RUN/INSTALL.STNCHANGE.CPL

To run this routine attach to the WATSTORE/SITEDIR/RUN directory and issue the following command:

PH INSTALL.STNCHANGE.CPL
(This INSTALL should have been run as a part of the initial "install"
procedure)

When the job is completed, check for possible errors by using the following command:

SLIST INSTALL.STNCHANGE\$COMO

6.3 Program Steps

The program for changing source agency codes, site identification numbers, and deleting stations records operates real time on the NWIS data files. In addition, files are created for later transfer to, and updating of, the national NWIS data files on the Amdahl. The general operation of the procedure is as follows:

- A. Displays data-base number and allows the user to resolve and data-base number conflicts.
- B. Displays information on files shared by multiple data bases.
- C. Greets users.
- D. Files that are used for updating NWIS on the Amdahl are opened.
- E. Source agency codes are retrieved from file *sagency.edi*.
- F. Data files (GW, QW, and Adaps, as requested) are opened.
- G. Old site ID entered and checked against current data file for existence.
- H. Inventory of existing data for all data records in the GWSI, QW, and ADAPS files is displayed.

- I. For a delete, the DELETE subroutine is called where--
 - a. each file (GW or SW and QW) is accessed and deleted records are counted. The number of records deleted is displayed.
 - b. the record in the Site File is last to be deleted.
 - c. delete records for updating NWIS on the Amdahl are written.
- J. For a site identification change, the following occurs:
 - a. The "new" site identification is entered and checked for errors.
 - b. The CHANGE subroutine is called.
 - c. The record in the Site File is the first to be changed.
 - d. Change records for updating NWIS on the Amdahl are written.
 - e. Each file (GW or SW and QW) is accessed and changed records are counted; the number of records changed is displayed.
- K. When completed, all files are closed.